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QUANTUM CORPORATION

IN THE UNITED STATES DISTRICT COURT

FOR THE SOUTHERN DISTRICT OF CALIFORNIA

OVERLAND STORAGE, INC.,

Plaintiff,

v.

QUANTUM CORPORATION,

Defendant.

QUANTUM CORPORATION,

Counterclaimant,

v.

OVERLAND STORAGE, INC.,

Counterdefendant.

Case No. 3:12-cv-01599-JLS-BLM

DEFENDANT AND COUNTERCLAIMANT QUANTUM CORPORATION'S OPENING CLAIM CONSTRUCTION BRIEF

Ctrm: 6, 3rd Floor
Judge: Honorable Janis L. Sammartino

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I. INTRODUCTION

Defendant and Counterclaimant Quantum Corporation ("Quantum") and Plaintiff and Counterdefendant Overland Storage, Inc. ("Overland") are competitors in the enterprise data storage business. Quantum has been operating in the space for more than 30 years and has spent hundreds of millions on research and development. Quantum has accused Overland of infringing four patents (out of a portfolio of over 450 issued United States patents), as well as copying Quantum's trademarks based on Overland's use of "DX1" to designate the Overland product analogous to Quantum's "DXi" product. *See* D.I. 42 (Answer and Counterclaims to Amended Complaint) at 7-15.

Overland is a more recent entrant to the enterprise data storage market. Overland is not doing well: it frequently has been (and currently is) under threat of delisting from NASDAQ.[1] Overland's strategy appears to be to file patent infringement lawsuits against its competitors and to aggressively talk up its anticipated recovery in order to maintain its stock price and raise working capital.[2] Overland initially pursed this strategy in the ITC, accusing a number of companies of infringing U.S. Patent Nos. 6,328,766 (the "'766 patent") and 6,353,581 (the "'581 patent"). As the rulings in the ITC started to turn against it, Overland filed a number of parallel suits (including the present one) in this Court, asserting these same two patents. Overland rapidly conceded that Quantum does not infringe the '581 patent, and dismissed that infringement claim. *See* D.I. 32. Overland pursued an infringement claim in the ITC as to the '766 patent, and lost: the ITC ruled that the asserted claims of the '766 patent were invalid, and Overland chose *not* to appeal that decision. Nonetheless, Overland persists in asserting the '766 patent (including some of the very claims invalidated in the ITC) in this action. The parties have

[1] *See* Declaration of Lara A. Rogers in Support of Defendant and Counterclaimant Quantum Corp.'s Opening Claim Construction Brief ("Rogers Decl.") Ex. 1 (July 2, 2013 Overland Form 8-K). Evidence not included in the Parties' Joint Claim Construction Chart Appendix A (D.I. 46-1) is attached to the Declaration of Lara A. Rogers submitted herewith.

[2] *See* Rogers Decl. Exs. 2-4 (Overland Storage, Inc. Press Releases dated May 30, 2013, Dec. 12, 2012, and Aug. 20, 2010.).

only one claim construction dispute regarding Overland's sole remaining patent—a term that was not construed by the ITC.

The remaining terms are all from Quantum's patents. Overland repeatedly tries to narrow the claims by importing portions of the specification. The Court should instead interpret the claims to mean what they say.

II. LEGAL BACKGROUND

The Court is very familiar with the law of claim construction, so we will not repeat the general principles here. *See, e.g.*, *Weiland Sliding Doors & Windows, Inc. v. Panda Windows & Doors, LLC*, No. 10cv677 JLS (MDD), 2011 WL 3490481, at *1-2 (S.D. Cal. Aug. 20, 2011). There are, however, a couple of specific legal issues that are relevant to the disputes below, and which we have addressed in context.

III. UNITED STATES PATENT NUMBER 5,491,812

Quantum has accused Overland's SnapServer storage devices of infringing U.S. Patent No. 5,491,812 (the "'812 patent"). The '812 patent is directed to a system and method for interfacing a small computer systems interface protocol ("SCSI") device to an Ethernet network. In other words, the claim is directed to a system and method for interfacing a device that communicates using one protocol (SCSI) with a network using a different protocol (Ethernet). Claim 1 is asserted and is exemplary:

> 1. A data communication system for providing data storage and retrieval between at least one computer and at least one remote storage device, each of the computer and the remote storage device being a SCSI device utilizing a data and command exchange protocol in accordance with the small computer systems interface protocol (SCSI), said system comprising:
>
> an Ethernet network interconnecting the at least one computer and the at least one remote storage device, the Ethernet network including packet transfer means for transferring packets containing data and commands using an Ethernet protocol;
>
> a plurality of communication converters each coupling a respective one of the at least one computer and the at least one remote storage device to the Ethernet network for passing data and commands through the Ethernet network between the at least one computer and the at least one remote storage device, each of said communication converters comprising:
>
> a network interface controller for receiving Ethernet packets containing data and commands from the Ethernet network and transmitting Ethernet packets containing data and commands onto the Ethernet network;

> a flow control processor coupled to the network interface controller for interpreting command packets received from the Ethernet network and for accumulating data received by the network interface controller from the Ethernet network and for formatting commands and data for transmission onto the Ethernet network by the network interface controller; and
>
> an SCSI controller coupled to the flow control processor and linked to the respective SCSI device, said SCSI controller transferring SCSI commands from the flow control processor to the respective SCSI device and transferring SCSI data accumulated in the flow control processor to the respective SCSI device in a receive mode and transferring SCSI data to the flow control processor in a transmit mode.

The parties dispute two issues. The first dispute concerns Overland's request that the Court restrict the term "SCSI device" to devices that conform to a particular *version* of the SCSI protocol. As discussed below, there is no basis to read in such a limitation. The second dispute concerns whether the specification contains corresponding structure for the claimed "packet transfer means." As shown below, the specification shows the relevant structure and clearly links it to the claimed function.

A. "SCSI device"

Quantum's Construction	Overland's Construction
The term does not require construction beyond the explanation already given in the claims. Alternatively, "a device that utilizes a data and command exchange protocol in accordance with the small computer systems interface (SCSI) protocol"	"a device designed to conform with the ANSI X3.131-1986 standard, including physical and functional compliance"

Overland seeks to restrict the term "SCSI device" to devices that comply with a particular *version* of the SCSI protocol: the ANSI X3.131-1986 standard. The Court should reject this attempt to narrow the term.

First, the Court does not need to construe "SCSI device" because Claim 1 explains what a SCSI device is: a "SCSI device" is a device "utilizing a data and command exchange protocol in accordance with the small computer systems interface protocol (SCSI)." "It is black letter law that a patentee can 'choose to be his or her own

lexicographer by clearly setting forth an explicit definition for a claim term . . . .'" *Jack Guttman, Inc. v. Kopykake Enters., Inc.*, 302 F.3d 1352, 1360 (Fed. Cir. 2002) (quoting *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1342 (Fed. Cir. 2001)). Claim 1 offers a definition of "SCSI device," and thus there is no need for the Court to construe the term.

Second, there is *nothing* in the claims or in the specification that limits the invention to a particular version of the SCSI protocol. Neither the claims nor the specification mentions *any* particular version of the SCSI standard, much less the version identified by Overland. To the contrary, the specification repeatedly recognizes that the invention may use multiple versions of the protocol. For example, the specification states that "[t]he present invention relates . . . to a method and apparatus for providing a data path between remote equipment via an Ethernet network wherein the remote equipment utilizes a small computer system interface (SCSI) protocol." '812 patent at 1:7-12. That "the present invention" explicitly relates to the use of "***a*** small computer system interface (SCSI) protocol" is a strong indication that the invention contemplates more than one such protocol.

Similarly, the specification says that "[c]ommunication converters are coupled to each of the computer and the remote storage device for converting data and commands between the Ethernet protocol used on the network and ***the SCSI protocol used in the computer and remote storage device***." *Id.* at 1:44-48 (emphasis added). Again, the grammar of this sentence reflects an understanding that there is more than one such protocol, and that the invention is directed to interfacing with whichever "SCSI protocol [is] used in the computer and remote storage device"—not one particular version.

Indeed, even if the specification *did* only discuss a particular version of the SCSI protocol, it would be error to limit the term to that version. It is black letter law that a construing court should not "import limitations into claims from examples or embodiments appearing only in a patent's written description, even when a specification describes very specific embodiments of the invention or even describes only a single embodiment, unless the specification makes clear that the patentee intends for the claims

and the embodiments in the specification to be strictly coextensive." *JVW Enters., Inc. v. Interact Accessories, Inc.*, 424 F.3d 1324, 1335 (Fed. Cir. 2005) (internal citations omitted). There is no evidence (of any kind) that Quantum had such an intention.

Moreover, the 1986 SCSI protocol is a "formalization and extension of" an earlier standard called "Shugart Associates System Interface," or "SASI." Ex. A (ANSI X3.131-1986 Small Computer Interface Standard, Foreword) at OSDC_00100148-149.[3] And yet another version of the protocol, called SCSI-2, was under discussion between 1986 and 1990, with the formal approval process starting in 1991—the year before Quantum filed the application leading to the '812 patent. Ex. B (ANSI X3.131-1994, Foreword) at OSDC_00100382 ("This standard was developed . . . during 1986-90. The standards approval process started in 1991."). For a person of ordinary skill in the art to read the claim as Overland suggests, s/he would have to believe that Quantum intended to restrict its claims to the 1986 SCSI standard even though the SCSI-2 standard was pending, and that Quantum intended the claims to become irrelevant as soon as the new standard was finalized. That is hardly plausible.

Indeed, for this reason, a court previously found that references to an evolving protocol should not be restricted to the particular version of the protocol in place at the time the patent was filed. In *Mediatek, Inc. v. Sanyo Electric Co.*, 513 F. Supp. 2d 778, 782 (E.D. Tex. 2007), Sanyo argued that "an MPEG standard" should be limited to MPEG1 and MPEG2 because they were the only standards that existed at the time the patent application was filed. The court disagreed because the specification did not limit "MPEG" to MPEG1 and MPEG2 and because "MPEG was commonly understood to be an evolving standard because it had gone through two versions by the time of filing." *Mediatek*, 514 F. Supp. 2d at 782. Additionally, Sanyo did not "offer evidence of a clear disclaimer by the inventor that would limit the invention to MPEG1 or MPEG2." *Id.*

[3] Because the American National Standards Institute would not allow its formalization of the standard to be named after a company, the name "SASI" was changed to "SCSI." *See* Rogers Decl. Ex. 5 (Wikipedia entry on SCSI dated Aug. 22, 2013).

Here, Overland cannot offer evidence that Quantum disclaimed all versions of SCSI other than the 1986 protocol; there is nothing that supports such a disclaimer. And, like the MPEG standard, SCSI was understood at the time of invention to be an evolving standard; it had already evolved once and a second evolution was under discussion. Thus, the Court should not limit "SCSI" to the 1986 version of the SCSI protocol as Overland requests.

Overland's construction is also wrong insofar as it requires an "SCSI device" to be in "physical and functional compliance" with the SCSI protocol. No such language or requirement appears anywhere in the claims or in the specification of the '812 patent. Instead, the claims and specification discuss a device that "utilizes" SCSI. If Overland's construction were adopted, devices that "utilized" the SCSI protocol, but nonetheless had some minor point of non-compliance would not literally infringe even though they *use* the protocol as called for in the claims. If Quantum had believed that physical and functional compliance (rather than mere use) were necessary to make something a "SCSI device," Quantum could have said so. It didn't, and the Court should not add such a requirement.

B. "packet transfer means" [claim 1]

Defendant Quantum's Construction	Plaintiff Overland's Construction
Function: "transferring packets containing data and commands using an Ethernet protocol" Structure: "The Ethernet logic circuit 22 as shown in Figure 2, and equivalents."	Function: "transferring packets containing data and commands using an Ethernet protocol" Structure: No corresponding structure is disclosed.

The parties agree that "packet transfer means" is a means-plus-function limitation with a function of "transferring packets containing data and commands using an Ethernet protocol." The parties disagree, however, over whether the specification contains corresponding structure.

Where an applicant claims in means-plus-function format, the claims are limited to the corresponding structure disclosed in the specification and its equivalents. *Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039, 1042 (Fed. Cir. 1993) ("Section 112 . . . limits the applicant to the structure, material, or acts in the specification and their

equivalents."). To qualify as corresponding, a structure disclosed in the specification must be "clearly linked" to the function to which it corresponds. *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997) ("[S]tructure disclosed in the specification is 'corresponding' structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.") (internal citation omitted).

The '812 patent discloses and clearly links a particular structure to the performance of this function—namely, the "Ethernet logic circuit 22" as shown in Figure 2:

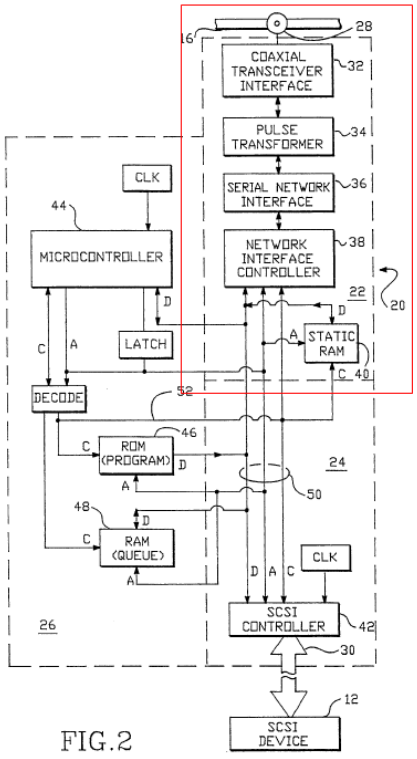


FIG.2

The specification explains that this circuit is responsible for "transferring packets containing data and commands using an Ethernet protocol." In particular, the specification explains that the "Ethernet logic circuit 22 is connected via a conventional coupler 28 . . . to network lines 16." '812 patent at 2:63-65. It receives incoming Ethernet data over the network and hands that data off to the SCSI circuit 24 by writing it to RAM 40 and alerting the flow control processor as to its location:

> In a receive mode **circuit 22 recognizes** addresses forming part of header information associated with **a message block and grabs that**

> **message block from the network**. Circuit 22 strips the address and other header information from the message block and stores the **data** in RAM 40. Circuit 22 then signals flow control processor circuit 26 that **data** is waiting in RAM 40.

Id. at 3:13-19 (emphasis added). *See also id.* at 5:24-45 (emphasis added):

> [T]he following is an example of the logic flow which would occur when a SCSI write **command is received via the Ethernet interface or Ethernet logic circuit 22**. . . . The control processor 26, after initializing both the Ethernet logic circuit 22 and the SCSI logic circuit 24, resides in a housekeeping loop awaiting commands from a host on the Ethernet network 16. **When the Ethernet logic circuit 22 receives an Ethernet packet** that is addressed to the interface card 20, the controller 38 requests service from the processor circuit 26 by generating an interrupt to the micro-processor 44. The flow control processor circuit 26 recognizes the interrupt and initiates **a transfer of the received packet from the Ethernet logic circuit 22 buffer area** (static RAM 40) to the processor circuit 26 buffer area (RAM 48).

Thus, the specification is explicit that Ethernet logic circuit 22 is the corresponding structure: it takes in inbound Ethernet packets[4] from the network and then transfers them to the processor by writing them to memory and informing the processor of the packets' location.

The specification also clearly links the Ethernet logic circuit to the claimed function for *outbound* Ethernet packets—saying explicitly that the inbound process is simply reversed. *Id*. at 3:40-41. Indeed, the specification describes (as an example) how the Ethernet logic circuit is called upon to handle the transfer of a "status packet" used to inform a remote device that the write command it sent has been completed:

> Once the write command has been completed . . . a status packet containing the SCSI status information regarding the prior received write command along with the address of the Ethernet device that had previously sent the write command and places the status packet in the Ethernet logic circuit 22 output buffer. . . . The processor circuit 26 then instructs the controller 38 to send the status packet. At that point, all Ethernet protocol is handled by the Ethernet logic circuit 22. . . ."

Id. at 6:40-52. Again, this is a clear linking of the structure shown in "Ethernet logic circuit 22" to the function of transferring outbound Ethernet packets to the network. The

[4] These inbound Ethernet packets contain data and commands. *See* '812 patent at 1:44-52 and 3:35-39.

Court should, therefore, reject Overland's assertion that the specification contains no corresponding structure and should instead identify the corresponding structure as "the Ethernet logic circuit 22 as shown in Figure 2, and equivalents."

IV. UNITED STATES PATENT NUMBER 6,542,787

U.S. Patent No. 6,542,787 (the "'787 patent") is directed to a library for storing storage media, such as tape cartridges. A library control circuit is "disposed" (claim 1) or "mounted" (claim 5) within the library chassis. The library also has a "removable module" (claim 1) or "sled" (claim 5) that contains both a media drive and an interface circuit. A "first connector" (claim 1) or "first signal connector" (claim 5) is carried by the removable module/sled "for movement therewith." A second connector is "positioned at the module receptacle" (claim 1) or sled receptacle (claim 5). The first and second connectors connect to couple the library control circuit within the library chassis to the interface circuit within the removable module.

The parties dispute the meaning of two terms from the '787 patent.

A. "a second connector coupled to the library control circuit"/"a library control circuit . . . coupled to . . . the second signal connector"

Defendant Quantum's Construction	Plaintiff Overland's Construction
"a second connector interconnected for communication with the library control circuit" [claim 1] / "a library control circuit interconnected for communication with the second signal connector" [claim 5]	"a second connector directly attached to the library control circuit" / "a library control circuit directly attached to the second signal connector"

With respect to the '812 and '766 patents, the parties have agreed that "coupled" means "interconnected for communicating." *See* Joint Claim Construction Worksheet, D.I. 42, Ex. B at 1, 9. Despite that fact, Overland is insisting on a different construction (namely that "coupled" means "directly attached") in the '787 patent in an effort to create a non-infringement argument. But the claims and specification do not support Overland's assertion that "coupled" has a specialized meaning in the '787 patent.

First, claim 1 of the '787 patent's use of the word "coupled" is inconsistent with Overland's "directly attached" language. In claim 1, a pair of connectors—a first

connector and a second connector—connect to *one another* to couple the library control circuit (located "within the chassis,") to the interface circuit ("disposed within the removable module."). Thus, when the interface circuit within the removable module and the library control circuit within the library are "coupled" as described in claim 1, they are not directly attached to one another. Rather, they are connected to one another indirectly through intermediate components: the first and second connectors. "Coupled" as used in claim 1 therefore cannot mean "directly attached."

Second, nothing in the specification requires the second connector and library control circuit to be "directly attached." To the contrary, the specification describes a "module 70" which:

> includes the media drive 48 and a circuit board 72, which includes an interface circuit. . . . A connector 78 is mounted to the circuit board 72 and is coupled to the interface circuit on the circuit board 72. The connector 78 mates with **a connector 80—which is mounted to the circuit board 68 and is coupled to the library control circuit on the circuit board 68**—when the module 70 is fully inserted within the rear receptacle 20. Thus, the connectors 78 and 80 provide a communication path between the library control circuit and the interface circuit.

'787 patent at 4:58-5:6 (emphasis added). As this shows, connector 80 (the "second connector") is not *directly attached* to the library control circuit—rather, connector 80 is mounted to the board on which that circuit is disposed. The circuit could reside anywhere on that board—nothing in the claims or the specification limits it to the portion of the board directly underneath the attachment to the connector. Thus, the specification does not require a direct attachment of the second connector to the library control circuit; it merely requires that the two things be interconnected for communicating.

B. "circuit"

Defendant Quantum's Construction	Plaintiff Overland's Construction
"Arrangement of conductors and passive and active components forming a path, or paths, for electric current."	"Arrangement on a circuit board of conductors and passive and active components forming a path, or paths, for electric current."

The parties agree on the definition of "circuit," except that Overland wants to limit the construction to circuits "on a circuit board." But none of the asserted claims of the '787 patent mention or require a "circuit board." And Overland's attempt to limit "circuit" in this way is directly contradicted by the specification:

> The media drive **circuit** 92 communicates with the interface circuit 90, and may be located entirely within the media drive 48 of FIG. 2, entirely on the circuit board 72, or may have a portion that is located within the media drive 48 and another portion that is located on the circuit board 72.

'787 patent at 5:57-61. As the patent teaches that the media circuit may be on a board, within a drive, or partially on a board and within a drive, Overland cannot credibly claim that a "circuit" in the context of the '787 patent must be located on a circuit board.

V. UNITED STATES PATENT NUMBER 6,498,771

A. "selector means"

Defendant Quantum's Construction	Plaintiff Overland's Construction
Function: "selectively removing media from the magazine in which they are stored, and feeding them into the drive means" Structure: "a pick that can be: - moved inwardly and outwardly of a picker device using a drive motor which through a toothed belt and sprockets rotates a screwed shaft to which the pick is attached; - moved from side to side, or sideways, so that a nib on the pick can be moved into and out of engagement with a conventional recess in a cartridge when suitably positioned relative thereto; and - moved outward from picker using a motor, and retracted using a motor and equivalents."	Function: "selectively removing media from the magazine in which they are stored, and feeding them into the drive means" Structure: "picker device 20, track 21, pair of tracks 26, motor 23, motor 27, motor 30, and pick 33, where the picker device 20 is slidable on track 21 and controlled by motor 23 in the 'Y' direction and is slidable on pair of tracks 26 and controlled by motor 27 in the 'X' direction" and is rotatable about a vertical axis by motor 30, and where pick 33 is used to grab a tape cartridge"

The parties agree that the *function* of the selector means is "selectively removing media from the magazine in which they are stored, and feeding them into the drive means." The dispute arises from Overland's attempt to read into the corresponding structure elements which are not necessary to perform the claimed functions.

The construction of means-plus-function limitations "requires the court to first identify the function of the means-plus-function limitation and next identify the corresponding structure in the written description necessary to perform that function." *BBA Nonwovens Simpsonville, Inc. v. Superior Nonwovens, LLC*, 303 F.3d 1332, 1343 (Fed. Cir. 2002). Thus, "[a] court may not import into the claim features that are unnecessary to perform the claimed function. . . . Features that do not perform the recited function do not constitute corresponding structure and thus do not serve as claim limitations." *Northrop Grumman Corp. v. Intel Corp.*, 325 F.3d 1346, 1352 (Fed. Cir. 2003) (internal citation omitted).

Here, the parties agree that there are only *two* recited functions: ***removing*** media from storage slots and ***feeding*** media into tape drives. In the patent, those functions are performed by a structure called a pick, which is driven in and out by a motor to pull a tape from a storage slot or push it into a drive. *See* '771 patent at 6:5-10 (describing how the pick removes a cartridge from its slot in the magazine); *id*. at 6:25-27 (describing use of the pick to slide a cartridge into a drive).

Overland seeks to include many additional structures that do not perform the agreed functions.[5] The tracks (21 and 26) and the motors responsible for moving the tape along those tracks and rotating the picker housing (motors 23 and 27) do not *remove* the cartridge from the magazine slot or *feed* it into the drive, but are instead used to *move* the

[5] The parties agree that the corresponding structure includes a motor for pushing the pick in and out, thereby pulling the tape out of the slot and pushing it into the drive. This is why Quantum's corresponding structure includes the requirement that the pick is "moved outward from picker using a motor, and retracted using a motor and equivalents" while Overland points to motor 30 which is responsible for retracting the pick. '771 patent at 6:6-10. But Overland's effort to incorporate motor 30 itself should be rejected insofar as that motor *also* performs other functions which are not part of the claims (*e.g.*, rotating the picker 90 degrees). *See id*. at 6:16-19.

picker assembly (containing the tape and the pick) between the magazine slot and the drive. *Id*. at 5:15-38 (describing "[t]he transport mechanism for moving the picker device 20 between the magazines 9 and 10, and the drives 5 and 6 . . . .").

Overland may argue that the motors and tracks to which it points are *necessary* in the sense that they enable the invention to function—*i.e.*, without the motors 23 and 27, the pick could not perform the removal and feeding functions. But the tracks and motors are nevertheless not part of the corresponding structure—because they do not perform the recited function. *Northrop Grumman*, 325 F.3d at 1352 ("Features that do not perform the recited function do not constitute corresponding structure."). Indeed, the Federal Circuit has been clear that the corresponding structure should not include "all things necessary to enable the claimed invention to work" but rather only "all structure that actually performs the recited function." *Default Proof Credit Card Sys., Inc. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1298 (Fed. Cir. 2005). The motors and the tracks to which Overland points are no more or less necessary than a wire connecting the motors to a power source, or a processor for telling the motor when to turn on and off. Those things may be needed for the pick to perform the claimed functions of feeding and removal, but in the first instance, those functions *are performed by the pick and the motor that pushes it in and out*. Quantum has, therefore, correctly identified the corresponding structure.

B. "the individual data storage media are stored vertically"/"with said media substantially vertical"/"in a substantially vertical plane"

Quantum's Construction	Plaintiff Overland's Construction
"stored such that the media's long axis is [substantially] vertical"	The terms "vertical" and "vertically" are indefinite under 35 U.S.C. § 112 as to all claims in the '771 patent in which those terms appear.

Overland contends that the term "vertical" is indefinite. Not so. A term is not indefinite "if the meaning of the claim is discernible, even though . . . the conclusion may be one over which reasonable persons will disagree." *Exxon Research & Eng'g Co. v. United States*, 265 F.3d 1371, 1375 (Fed. Cir. 2001). As a result, "[o]nly claims not amenable to construction or insolubly ambiguous are indefinite" and claims are definite if

the terms "can be given *any* reasonable meaning." *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005) (internal citations omitted) (emphasis added).

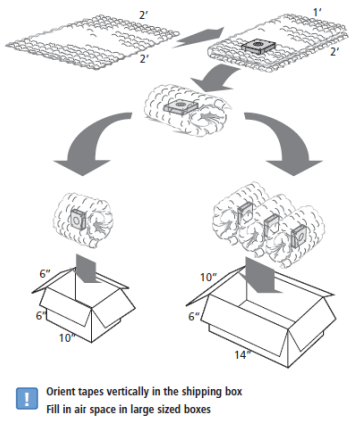
The term vertical is not "insolubly ambiguous" such that it cannot "be given any reasonable meaning." To the contrary, the meaning is so readily apparent that it should not require construction. In particular, the *ordinary* meaning of the term is a reference to the alignment of an object's dominant axis. Consider the following example:

The glass on the left is vertical; the glass on the right is horizontal. The term "vertical" is not a specialized term of art, but is a common term that should be readily understandable to a jury and which (at a minimum) can be given a reasonable meaning. The term is not, therefore, insolubly ambiguous. Indeed, the Federal Circuit has repeatedly held that far more ambiguous terms survive this standard. *See, e.g.*, *Exxon Research*, 265 F.3d at 1377 ("'[T]o increase substantially' does not introduce any insoluble ambiguity into the claims . . . ."); *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 655 F.3d 1364, 1374 (Fed. Cir. 2011) (the term "controlled environment" is not insolubly ambiguous), *cert. dismissed*, 133 S. Ct. 97 (2012).

Quantum's proposed construction is also consistent with the specification. The specification explains that "[t]he individual data storage media are preferably stored substantially vertically within the magazines, and the drive means preferably receives the media for reading or writing in a substantially vertical plane." '771 patent at 3:1-4. Thus, the specification indicates that "vertical" means substantially in the vertical plane, as

Quantum has proposed. And the figures show that the long axis of the tape media is aligned with the vertical plane. *See e.g.*, Fig. 1 (drives 5 and 6 are shown from the top and oriented so as to suggest that the tape is inserted with the magnetic tape oriented along the vertical surface); Figs. 2 & 3 (showing the bar code reader 45 oriented to receive a tape with the long axis aligned with the vertical); Fig. 4a (showing the magazine slots with the long axis in a vertical orientation); Figs. 5 & 6 (showing the tape's counterweight 52 oriented with the long axis aligned with the vertical).

The extrinsic evidence also supports Quantum's construction. For example, in Quantum's Media Care Guide, which concerns the care and storage of cartridges used in tape libraries, the following graphic shows the term "vertical" refers to the orientation of the tape's long axis:



Ex. C at QUANTUM00048263.

The Court should, therefore, reject Overland's proposed construction and adopt Quantum's proposal.

C. "shuttle means" [claim 13]

While the term "shuttle means" was listed in the parties' Joint Claim Construction Statement as a term for construction by the Court, the parties further met and conferred regarding this term during the period for claim construction briefing, and agreed that the term should be construed as follows: "The structure shown in Figure 7, and equivalents." Accordingly, Quantum respectfully requests that the Court adopt the parties' agreed construction of "shuttle means."

VI. UNITED STATES PATENT NUMBER 5,925,119

U.S. Patent No. 5,925,119 (the "'119 patent") is directed to a computer architecture for an automated data storage library that includes a "high-speed local bus" with "industry standard" expansion slots. The parties dispute whether the terms "high-speed local bus" and "industry standard" are indefinite. The Court should adopt Quantum's constructions of these two terms because neither term is insolubly ambiguous.

A. "high-speed local bus"

Defendant Quantum's Construction	Plaintiff Overland's Construction
"a bus (which is a set of wires, paths, or connections for carrying signals in a computer) that has its own clock speed of at least 25 MHz"	The term "high-speed" is indefinite under 35 U.S.C. § 112 as to all claims in the '119 patent in which that term appears.

Overland argues that the phrase "high-speed" in the term "high-speed local bus" is indefinite. According to the Federal Circuit, "[w]hen a word of degree is used [in a claim] the district court must determine whether the patent's specification provides some standard for measuring that degree." *Seattle Box Co. v. Indus. Crating & Packing, Inc.*, 731 F.2d 818, 826 (Fed. Cir. 1984). "That some claim language may not be precise, however, does not automatically render a claim invalid. The trial court must decide, that is, whether one of ordinary skill in the art would understand what is claimed when the claim is read in light of the specification." *Id.*

In *Seattle Box*, claim 1 of the patent-in-suit included a limitation requiring that a spacer block have a "height substantially equal to the thickness of the tier of pipe lengths." *Id.* at 821. The Federal Circuit affirmed the district court's holding that the phrase "substantially equal to" was not indefinite under 35 U.S.C. Section 112 because one of ordinary skill in the art would know the limit of the claims from the specification's statement explaining the purpose of the blocks in the invention (the blocks were "intended to absorb the weight of overhead loads"). *Id.* at 826.

Exxon Research is also instructive. In *Exxon*, claim 1 of the patent at issue read:

> 1. A method for activating an essentially fresh, reduced cobalt containing Fischer-Tropsch catalyst which comprises treating

> the catalyst with hydrogen or a hydrogen containing gas in the presence of hydrocarbon liquids for a period sufficient to increase substantially the initial catalyst productivity.

Exxon, 265 F.3d at 1374. The district court reasoned that "the fact that neither the claims nor the specification identified any upper or lower boundary for the prescribed period" meant that "a person of ordinary skill in the art could not determine the scope of the claims" and held that the claim was indefinite as a result. *Id*. at 1378. The Federal Circuit reversed. While the patent did not "quantify the 'period sufficient' limitation by reference to any specific period or range of periods, it [did] not leave those skilled in the art entirely without guidance as to the scope of that requirement" because it stated that the

> period necessary for activation is that period that results in substantial increases in initial, e.g., start of run, catalyst productivity, preferably at least about a thirty percent (30%) increase in relative catalyst productivity and may vary with temperature and treat ratio, etc., but is usually accomplished in about 0.25-24 hours, preferably about 0.5-2 hours.

Id. As the Federal Circuit reasoned, "by looking to the specification, one of skill in the art could determine that 'a 1379 period sufficient' is about 0.25 hours, and preferably 0.5 hours," meaning that a person of skill in the art could understand the period claimed. *Id*. at 1378-79.

Like the spacer block in *Seattle Box* and the period sufficient in *Exxon*, the "high-speed local bus" limitation is not indefinite because a person of ordinary skill in the art can understand the scope of the limitation in light of the specification. The specification teaches that a "bus" is "[t]he set of wires, paths, or connections for carrying signals throughout a computer system. . . ." '119 patent at 1:31-32. Quantum's construction of "high-speed local bus" includes this explicit definition of "bus." The '119 specification further explains that a "local" bus has "its own clock." *Id*. at 7:46-49. Quantum's construction specifies that the bus has its own clock speed (and thus its own clock). The specification further discloses that the '119 patent's novel computer architecture includes "a bus in a data storage library that *can support high-speed communications without slowing down* or bottlenecking *the data transfer* . . . ." *Id*. at 2:66-3:1 (emphasis added).

The specification further explains that "[t]he speed of the local bus is important in that it affects how quickly data can be transferred. . . ." *Id*. at 7:61-62. The specification thus links the speed of the bus with the bus's ability to support communications without slowing down data transfer.

The specification further clarifies what "high speed" communications must be supported without slowdown by the high-speed local bus. According to the specification, a "high" data transfer rate, or high-speed interface, is exemplified by Fibre Channel, which has a data transfer rate of about 100 Megabytes per second. *See id*. at 2:15-31 ("Fibre Channel is an interface designed to handle the high data transfer rates (currently up to about 100 Megabytes per second (MBps)) possible with fiber optics . . . . The need to support such high-speed host interfaces and high-speed network interfaces [as Fibre Channel] is not typically addressed in libraries of the prior art. . . ."); *see also id*. at 7:20-25 ("[T]he architecture shown in FIG. 3 can support fiber optic based high-speed host interfaces, as well as high-speed network interfaces . . . because of the implementation of the high-speed local bus capable of transmitting data blocks in parallel, which [is] preferably a PCI bus."). Indeed, a Peripheral Component Interconnect ("PCI") bus is taught in the specification as a "good choice" for the claimed high-speed local bus because, running at 25 Megahertz, it yields a 100 MB/s peak rate for data transfer. *Id*. at 8:35-45. And one of ordinary skill in the art would understand that a local bus of conventional bus width for at the time of the invention (32 bits, or 4 bytes) could support high-speed Fibre Channel communications involving data transfer rates of about 100 Megabytes per second without slowing the communications down as long as the bus's clock had a speed of at least 25 Megahertz.[6] Indeed, the specification notes that while the preferred PCI embodiment of the high-speed local bus has a selectable clock speed of "between 0 and 66 megahertz," *id*. at 6:3-6, "[t]he clock frequency will practically range

[6] The data transfer rate in Megabytes per second is determined by the bus width in bytes (*i.e.*, 8 bits in a byte, so 4 bytes in a 32-bit bus) multiplied by the bus's clock speed. So a 32-bit, or 4 byte, bus with a clock speed of 25 Megahertz (25,000 cycles per second) would be capable of transferring data at a rate of 4 bytes x 25,000 cycles per second, or 100,000 bytes (100 Megabytes) per second.

from 25 megahertz to 66 Megahertz. . . ." *Id*. at 10:29-30. Thus, as in *Exxon*, while the '119 patent does not explicitly define "high-speed," a person of ordinary skill in the art could look to the specification, including the range of clock speeds it discusses, to understand the scope of the limitation as covering a clock speed of at least 25MHz.

The extrinsic evidence also supports Quantum's construction. For example, U.S. Patent No. 5,857,085 (the "'085 patent), entitled "Interface Device for XT/AT system Devices on High Speed Local Bus," was filed just four months before the '119 patent and is directed to "a novel host bus interface . . . which allows compatibility with older[,]" slower bus input/out devices. Ex. D ('085 patent) at 1:7-9. The novel interface "includes a host controller coupled between the host bus and high speed bus. . . ." *Id*. at abst. Further, according to the '085 patent, "[t]he PCI bus 6 is a newer *high speed peripheral bus*, such as a 32-bit or 64-bit bus running at *25 MHz* or 33 MHz, etc." *Id*. at 1:53-54 (emphasis added). The '085 patent thus illustrates that one of skill in the art would understand that a bus such as the PCI bus referred to in the '119 patent's specification as a "good choice," running at 25 MHz, was "high speed."

U.S. Patent No. 5,928,346 (the "'346 patent"), entitled "Method for Enhanced Peripheral Component Interconnect Bus Split Data Transfer," filed just three months after the '119 patent, confirms that a person of ordinary skill in the art at the time of the invention considered buses with clock speeds less than 25 MHz to be "low speed." The '346 patent describes conventional bus architectures—all with clock speeds less than 25 MHz—as "lower speed": "Conventional bus controller 112 links high speed bus 108 to more conventional *lower speed buses* such as industry standard architecture (ISA), extended industry standard architecture (EISA), and a micro channel bus. . . . *The data traveling on conventional bus 114 is low speed*." Ex. E at 4:35-42 (emphasis added). As one of skill in the art would know, ISA and EISA buses have clock speeds of 8 MHz, and micro channel architecture has a clock speed of 10 MHz—far short of the practical minimum 25 MHz necessary to accommodate high-speed data transfer. *See* Ex. F (Badri Ram, Advanced Microprocessors and Interfacing, Ch. 11: Standards for Bus Architectures

and Ports, 2001) at 11.1-11.3. Moreover, like the '119 specification, the '346 patent discloses a PCI-compliant bus as a preferred "high-speed bus." Ex. E at 4:13-14.

Given the '119 patent's stated purpose of providing a bus capable of supporting high-speed communications (such as Fibre Channel) with data transfer rates of about 100 MB/s, the patent's linkage of clock speed with data transfer, and the patent's teaching of a practical minimum clock speed of 25 MHz per second, one of ordinary skill in the art would understand a "high-speed local bus" to refer to a bus having its own clock speed of at least 25 MHz—a conclusion further supported by the extrinsic evidence. Because the term can (and should) be given the "reasonable meaning" proposed by Quantum, it is "amenable to construction" and thus not indefinite. *Datamize*, 417 F.3d at 1347.

B. "industry standard"

Defendant Quantum's Construction	Plaintiff Overland's Construction
Quantum proposes that the following terms be construed: "industry standard expansion slot;" "industry standard local bus connector;" "industry standard connector" Proposed construction: an expansion slot/local bus connector/connector that conforms to a published industry standard	The term "industry standard" is indefinite under 35 U.S.C. § 112 as to all claims in the '119 patent in which that term appears.

"Industry standard," like "high-speed local bus," is not incapable of being given any reasonable meaning, and thus is not indefinite. Rather, when reviewing the claim language and specification, one of ordinary skill in the art would reasonably understand the "industry standard [local bus] connector" and "industry standard expansion slot" to mean a [local bus] connector and an expansion slot that conform to a published industry standard.

The specification teaches that the high-speed local bus of the invention "preferably *adheres to industry standards for computers*, thus providing the ability in a library to transmit data blocks in parallel on a local bus capable of supporting large bandwidth communications while *supporting any expansion or add-in card designed to meet such*

industry standards." '119 patent abst. (emphasis added). One of ordinary skill in the art would thus reasonably understand that an "industry standard" bus component within the meaning of the invention, such as an "industry standard connector," is a connector conforming to an industry standard. Lest there be any doubt as to what relevant industry standards are in the context of the '119 patent, the specification provides several examples. For instance, the specification discloses the PCI standard at column 5, noting that PCI is "well-known" and that the "bus specification, revision 2.1 . . . is available from the PCI Special Interest Group of Portland, Oreg." *Id*. at 5:59-65. The specification also describes a host interface module connected to the high-speed local bus, the host interface module having an interface that is "preferably designed in accordance with the 'well-known SCSI-2 standard.'" *Id*. at 5:7-10. The extrinsic evidence offers further support by linking the language "industry standard" with known bus architectures. For example, in European patent application no. EP 0724208 A1, which is directed to a computer system with a bus with an expansion slot, the specification notes that "generally the expansion bus system, including the expansion slot, will conform to an industry standard (such as ISA, EISA, or PCI)." Ex. G at 4:50-52. Given the '119 patent's disclosure and the extrinsic evidence, the meaning of the terms "industry standard expansion slot" and "industry standard [local bus] connector" "is discernible" and thus the terms are not indefinite. *Exxon*, 265 F.3d at 1375.

VII. UNITED STATES PATENT NUMBER 6,328,766

The '766 patent is the only Overland patent that remains at issue. At a high level, the patent is directed to the concept of partitioning (or dividing) a data storage system into multiple sections, each of which maintains a non-overlapping set of media elements (such as tape cartridges) that can be accessed by one of the system's "host computers." Claim 1 of the patent (which was invalidated by the ITC) is exemplary:

> 1. A data storage system comprising:
> a plurality of media element drives;
> a plurality of media elements, all of which are readable in each of said plurality of media element drives;
> a plurality of media element storage locations;
> a moveable carriage adapted to transport media elements from

> at least one of said media element storage locations to at least one of said media element drives;
> a plurality of host computers; and
> a controller coupled to said plurality of media element drives, said moveable carriage, and said plurality of host computers,
> wherein said controller is configured such that a subset of said plurality of media elements and a subset of said plurality of media element drives are available for read/write access by a first one of said plurality of host computers and are unavailable for read/write access by a second one of said plurality of host computers.

The only term for construction is "host computer." The parties disagree about whether or not that term *requires* the "host computer" (a) to be in a physically separate box from a "library" and (b) to contain an unclaimed *application* that performs the claimed function of sending commands. The parties have proposed the following constructions:

Quantum's Construction	Overland's Construction
"a computer that sends commands to the library control module"	"a data processing apparatus, separate and external from the library, that runs application programs that can send commands to the library"

The parties' constructions of "host computer" are the same in two respects: first, the parties agree that the "host computer" is a "computer," or "data processing apparatus." Second, the parties agree that the host computer can send commands. The parties' constructions diverge because Overland is impermissibly attempting to import two limitations from the specification into the claims.

First, there is nothing about the plain language of the term "host computer" that speaks to its location or requires it to be in a distinct aluminum shell. Nor does the term itself require the host computer to issue commands from an application—as opposed to, for example, from an operating system or from a hardware component.

Second, Overland is attempting to import a limitation (*i.e.*, the presence of a "library") that is absent from this claim and present in other claims. Claim 1, for example, does not even mention a library but instead talks about the host computers and the media elements as part of a single "data storage system." Claim 10, on the other hand, talks

about "communicating information between a host computer system and a data storage library." That difference creates a presumption against Overland's construction. *See Seachange Int'l, Inc. v. C-COR, Inc.*, 413 F.3d 1361, 1368 (Fed. Cir. 2005) ("Although the doctrine [of claim differentiation] is at its strongest where the limitation sought to be read into an independent claim already appears in a dependent claim, there is still a presumption that two independent claims have different scope when different words or phrases are used in those claims.") (citations and internal quotations omitted).

In addition, where the claims do discuss both host computers and a library, they do not talk about their *physical* arrangement, but their *functional* relationship. For example, Claim 10 is directed to a method for "communicating information between a host computer system and a data storage library." The nerves of the human body (likewise) communicate information between the brain and the body. But it does not follow from that *functional* relationship that the brain must be "separate from and external to" the body.

Furthermore, *none* of the claims even mentions an "application"—much less requires such an application to issue the claimed commands. Instead, the claims are written so as to require either the mere *availability* of the media elements to the host computer (as in claim 1) or the sending and receiving of "data manipulation" commands *from the host computer* itself. The claims do not, therefore, support a requirement that the host computer contain an (unclaimed) application that issues data manipulation commands to the library.

Third, the specification supports Quantum's construction. For example, the specification notes that the "host computer system 36 may be a personal computer, a mainframe, a local area network server, or *any* of a wide variety of data processing apparatus well known to utilize media, libraries for data storage." '766 patent at 4:10-14 (emphasis added). Indeed, the reason Overland is seeking to read a "separate and external" requirement into "host computer" is to avoid a prior art system from IBM, the IBM 3494, that in some configurations included a virtual tape server ("VTS") that

functioned as a virtual host computer integrated into the same box as the library. *See* Rogers Decl. Ex. 6 at 1110-27 (Sept. 2, 2011 Testimony of IBM's James Fisher in ITC Investigation No. 337-TA-746) (explaining that the virtual tape server subsystem acted as a virtual host computer); *id*. at 1123:2-5 ("To the tape library, to the 3494 . . . the VTS is just another host that's sending down physical mount commands."). In other words, Overland is seeking to read a limitation into the claims in an effort to *exclude* the IBM 3494 tape library system with an integrated host computer as prior art, even though the specification says that "any of a wide variety of data processing apparatus[es]" can be host computers.

The specification also does not support Overland's assertion that the term "host computer" *requires* the computer to contain an application that sends commands to the library. There is nothing in the specification which disclaims coverage of any host computer that issues commands from, for example, an operating system or a hardware component. *See Arlington Indus., Inc. v. Bridgeport Fittings, Inc.*, 632 F.3d 1246, 1254 (Fed. Cir. 2011) ("[E]ven where a patent describes only a single embodiment, claims will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words o[r] expressions of manifest exclusion or restriction."). Absent such a disclaimer, there is no basis to adopt Overland's construction.

VIII. CONCLUSION

For the foregoing reasons, Quantum respectfully requests that the Court adopt Quantum's constructions as set forth herein.

Dated: August 22, 2013

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CERTIFICATE OF SERVICE

I certify that all counsel of record are being served on August 22, 2013 with a copy of this document via the Court's CM/ECF system.

/s/ Lara A. Rogers
LARA A. ROGERS